

CLAIMS

What is claimed is:

1. An aircraft communication system, comprising:
 - a plurality of radios;
 - a plurality of push-to-talk (PTT) switches, each PTT switch having at least an ON position and an OFF position and configured to supply an ON/OFF signal representative of the position of the PTT switch;
 - a controller in operable communication with each radio and coupled to receive the ON/OFF signal from each PTT switch, the controller configured, in response to the ON/OFF signal, to (i) selectively enable one or more of the radios to transmit (ii) determine whether each PTT switch is stuck in the ON position and (iii) when a PTT switch is stuck in the ON position, to selectively disable transmission from one or more of the radios.
2. The system of claim 1, further comprising:
 - an input buffer coupled between each PTT switch and the controller and configured to supply the buffered ON/OFF signals to the controller.
3. The system of claim 1, further comprising:
 - one or more timer circuits, each timer circuit configured to supply a time signal when at least one of the PTT switches is in the ON position,
 - wherein the controller determines that a PTT switch is stuck in the ON position, a time signal indicates the PTT switch has been in the ON position for at least a predetermined time value.
4. The system of claim 3, further comprising:
 - a memory circuit in operable communication with the controller, the memory circuit having at least the predetermined time value stored therein.
5. The system of claim 1 further comprising:
 - a plurality of selection switches coupled to the controller, each selection switch configured to supply a radio selection signal,

wherein the controller is further configured, in response to the radio selection signal, to determine which of the radios to selectively enable to transmit.

6. The system of claim 1, wherein the controller is further configured to supply an alarm signal when a PTT switch is determined to be stuck in the ON position, and wherein the system further comprises:
an aircraft display unit (ADU) in operable communication with the controller and configured to supply an alarm upon receipt of the alarm signal.
7. An apparatus for handling a STUCK-ON condition of a push-to-talk (PTT) switch coupled to a radio transmitter, comprising:
a PTT switch configured to supply a PTT ON/OFF signal;
a plurality of selection switches, each selection switch configured to supply a radio selection signal;
a controller coupled to the PTT switch, each of the selection switches, and each of the radio transmitters, and configured to:
 - (i) receive the PTT ON/OFF signal and the radio selection signal from each selection switch;
 - (ii) select one of the radio transmitters based on the radio selection signal;
 - (iii) determine whether the PTT switch is in the STUCK-ON condition;
 - (iii) until the STUCK-ON condition occurs, supply either a TRANSMIT or a STANDBY command to the selected radio based on the PTT switch ON/OFF signal, to thereby cause the radio transmitter to transmit or not transmit, respectively; and
 - (iv) when the STUCK-ON condition occurs, ignore the PTT switch ON/OFF signal and place the selected radio transmitter in STANDBY without affecting the activity of other PTT switches available to be coupled to the radio transmitter.
8. The apparatus of claim 7, further comprising:
an input buffer coupled between the PTT switch and the controller and configured to supply the buffered ON/OFF signals to the controller.

9. The apparatus of claim 1, further comprising:
a timer circuits configured to selectively supply a time signal,
wherein the controller determines that the STUCK-ON condition occurs when the time signal exceeds a predetermined time value.
10. The apparatus of claim 9, further comprising:
a memory circuit in operable communication with the controller, the memory circuit having at least the predetermined time value stored therein.
11. The apparatus of claim 7, wherein the controller is further configured to supply an alarm signal when a PTT switch is determined to be stuck in the ON position, and wherein the system further comprises:
an aircraft display unit (ADU) in operable communication with the controller and configured to supply an alarm upon receipt of the alarm signal.
12. In a communication system having one or more push-to-talk (PTT) switches that each have at least an ON position and an OFF position, and one or more radios that may be selectively coupled to receive a signal representative of each PTT switch position, a method for dealing with a STUCK-ON condition of a PTT switch, the method comprising the steps of:
determining whether a PTT switch is in the STUCK-ON condition; and
if so, inhibiting the signal representative of the position of the PTT switch that is in the STUCK-ON condition from being received by each radio transmitter.
13. The method of claim 12, wherein the step of determining whether a PTT switch is in the STUCK-ON condition comprises determining that the PTT switch has been in the ON position for a predetermined period of time.
14. The method of claim 11, further comprising the step of turning on an ALARM to notify a user that the STUCK-ON condition has occurred.
15. An audio control panel, comprising:
a controller adapted to receive an ON/OFF signal from each of a plurality of push-to-talk (PTT) switches having at least an ON position and an OFF position, the controller configured, in response to the ON/OFF signals, to (i) selectively supply one or more

radio enable signals (ii) determine whether each PTT switch is stuck in an ON position and (iii) when a PTT switch is stuck in the ON position, to selectively supply one or more radio disable signals.